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The Description of the Project
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SPECIFICATION DIVISION 9

NUMBER SECTION DESCRIPTION

DIVISION 09 FINISHES

SECTION 092116 - GYPSUM BOARD ASSEMBLIES

END OF CONTENTS TABLE

DIVISION 09 FINISHES
SECTION 092116 - GYPSUM BOARD ASSEMBLIES

THIS SECTION HAS BEEN PRE-EDITED TO APPLY ONLY TO SMALL RENOVATION PROJECTS. USE AIA MASTERSPEC SECTION OF SAME NAME AND NUMBER FOR SUCH ASSEMBLIES AS SUSPENDED GYP. CEILINGS HUNG BY MEANS OTHER THAN STUDS, CURVED WALLS, THERMALLY INSULATING WALLS AND WORK IN NEW STRUCTURES. USE SECTION 092913 "GYPSUM BOARD SHAFT-WALL ASSEMBLIES" FOR SHAFT-WALLS AROUND STAIRS AND ELEVATORS.

12/1/2017 - ADDED IDENTIFICATION REQUIREMENTS.

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Gypsum board assemblies, including nonload-bearing steel framing.

DELETE BELOW IF NO WATER-RESISTANT GYPSUM DRYWALL BACKERS FOR TILE.

2. Water-resistant gypsum drywall backer units installed with gypsum board assemblies.

DELETE BELOW IF NO CEMENTITIOUS BACKERS FOR TILE.

3. Cementitious backer units installed with gypsum board assemblies.

DELETE BELOW IF NO SHAFT WALL ASSEMBLIES.

4. Gypsum board shaft-wall assemblies.

1.2 ASSEMBLY PERFORMANCE REQUIREMENTS

DELETE BELOW IF STC-RATED ASSEMBLIES ARE NOT REQUIRED. IF RETAINING PARA, INDICATE STC RATINGS ON DRAWINGS.

A. Sound Transmission Characteristics: Where STC ratings are indicated, provide assemblies with STC ratings determined and classified in accordance with ASTM E 90 and ASTM E 413, respectively.

DELETE BELOW IF NO FIRE-RATED GYPSUM BOARD ASSEMBLIES.

B. Fire Resistance: Provide gypsum board assemblies with fire-resistance ratings indicated.

DELETE BELOW IF NO SHAFT WALL IS INCLUDED IN PROJECT.

- C. Shaft-Wall Performance Requirements: Provide gypsum board shaft-wall assemblies that are composed of proprietary gypsum board panels and metal components designed for erection from outside the shafts, and that comply with performance requirements specified as determined from testing manufacturers' standard assemblies representing those indicated for this Project.

1.3 SUBMITTALS

- A. Product data for each type of product specified.

1.4 QUALITY ASSURANCE

DELETE BELOW IF NO FIRE-RATED ASSEMBLIES. INDICATE RATING, TESTING AGENCY, AND TESTING AGENCY'S DESIGN DESIGNATION ON DRAWINGS.

- A. Fire-Test-Response Characteristics: Provide assemblies identical to those specified by indicated GA File Numbers in GA-600 "Fire Resistance Design Manual" or design designations in UL "Fire Resistance Directory," and that have been tested for fire resistance according to ASTM E 119 by an independent testing and inspecting agency.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

- 1. Gypsum Board and Related Products:
 - a. CertainTeed Saint-Gobain
 - b. Georgia-Pacific Corp.
 - c. Lafarge North America.
 - d. National Gypsum Co.
 - e. United States Gypsum Co.
- 2. Steel Framing and Furring:
 - a. Clark Dietrich Building Systems.
 - b. Jaimes Industries. Inc.

DELETE BELOW IF NO TILE BACKER PANELS.

- 3. Gypsum Backer Units:
 - a. Georgia-Pacific.
- 4. Cementitious Backer Units:
 - a. FinPan, Inc.
 - b. Georgia-Pacific Corp.
 - c. National Gypsum Co.
 - d. United States Gypsum Co.

DELETE BELOW IF NO SHAFT-WALL.

- 5. Gypsum Board Shaft-Wall Assemblies:
 - a. Dietrich Industries, Inc.
 - b. Georgia-Pacific Corp.
 - c. National Gypsum Co.
 - d. United States Gypsum Co.

2.2 STEEL FRAMING FOR SUSPENDED CEILINGS

DELETE ARTICLE IF NO SUSPENDED OR FURRED CEILINGS.

- A. General: Provide components complying with ASTM C 754 for conditions indicated.

DELETE BELOW IF NO STEEL STUDS USED FOR CEILING/SOFFIT FRAMING.

- B. Steel Studs for Ceiling Furring Channels: ASTM C 645, complying with the following requirements:

MODIFY BELOW TO 0.0329 INCH IF DESIRED.

1. Minimum Base (Uncoated) Metal Thickness: 0.027 inch, unless otherwise indicated.
2. Depth: 2-1/2 inches, unless otherwise indicated.
3. Protective Coating: ASTM A 653, G 40 hot-dip galvanized coating.

2.3 STEEL FRAMING FOR WALLS AND PARTITIONS

- A. General: Provide framing shapes as indicated, and with the following finish:

1. Protective Coating: Manufacturer's standard corrosion-resistant coating.

USUALLY RETAIN ABOVE AND DELETE BELOW. RETAIN BELOW IF MOISTURE RESISTANCE IS IMPORTANT (WET LABS, TOILETS, ANIMAL ROOMS, EXTERIOR AREAS, ETC.).

2. Protective Coating: ASTM A 653, G 40 hot-dip galvanized coating.

- B. Steel Studs and Runners: ASTM C 645, Manufacturer's standard profiles, and complying with the following requirements:

MODIFY BELOW TO 0.0329 INCH IF DESIRED.

1. Minimum Base (Uncoated) Metal Thickness: As indicated on drawings, or if not indicated, 0.0329 inch.

REVISE BELOW IF REQUIRED. COMMON ALTERNATIVES INCLUDE 1-5/8", 2-1/2", 4", AND 6".

2. Minimum Depth: 3-5/8 inches, unless otherwise indicated.

BELOW IS PROPRIETARY DEFLECTION-TOLERANT TOP TRACK SYSTEM FOR FIRE-RATED PARTITIONS UP TO UNDERSIDE OF METAL ROOF DECKS, OR OTHER CONDITIONS WHERE DEFLECTION OF MORE THAN ABOUT 1/4-INCH IS EXPECTED. NOTE THAT TYPICAL PERIMETER RELIEF JOINT DETAILS ARE LIMITED TO 1/2-INCH MAXIMUM WIDTH.

- C. Deflection and Firestop Track: Top runner designed to allow partition heads to expand and contract with movement of structure above while maintaining continuity of the assembly. Comply with requirements of ASTM C 645 except configuration, of thickness indicated for studs and width to accommodate depth of studs indicated with flanges offset at midpoint to accommodate gypsum board thickness.

1. Offset Configuration: Shadow-line design with offset projecting out from depth of stud.
2. Product: Subject to compliance with requirements, a product that may be incorporated in the Work includes, but is not limited to, "Fire Trak" manufactured by Fire Trak Corp.

BELOW IS PROPRIETARY TOP TRACK SYSTEM FOR PARTITIONS UP TO UNDERSIDE OF SUSPENDED CEILINGS. DELETE IF WALLS PENETRATE CEILINGS.

- D. Prefinished Top Track: Proprietary, pre-finished stud receptor track mounted to suspended ceiling grid. ASTM C 645, 25 gage galvanized steel; and as follows:
1. Accessories: Manufacturer's standard applied trim accessories for outside corners, wall ends and similar conditions requiring additional trim for a complete, finished appearance.
 2. Finish: Baked-on polyester paint in color to match suspended ceiling grid manufacturer's standard white.
 3. Product: Eliminator Track; Pro Products Mfg.
- E. Steel Rigid Furring Channels: ASTM C 645, hat shaped, depth and 0.0179 inch minimum thickness of base (uncoated) metal, unless otherwise indicated. Provide furring brackets if recommended by manufacturer for application indicated.

INCH DEPTH FOR BELOW IS ALSO AVAILABLE.

1. Depth: 7/8 inch.

RETAIN BELOW IF STEEL SHEET BLOCKING OR BRACING IS REQUIRED. INDICATE LOCATIONS, LENGTHS, AND WIDTHS ON DRAWINGS OR ADD A DETAILED DESCRIPTION TO TEXT.

- F. Steel Flat Strap and Backing Plate: Steel sheet for blocking and bracing, length and width as indicated, complying with ASTM A 653 or ASTM A 568, as follows:
1. Base (Uncoated) Metal Thickness: 0.0598 inch unless otherwise indicated.

2.4 GYPSUM BOARD PRODUCTS

- A. General: Provide gypsum board of types indicated in maximum lengths available that will minimize end-to-end butt joints.
- B. Gypsum Wallboard: ASTM C1396 and regular type for vertical surfaces, sag resistant for horizontal surfaces, Type X where required for fire-resistance-rated assemblies.
1. Thickness: Unless otherwise indicated, provide units that are 5/8 inch thick for all applications except 1/2 inch thick for ceilings and soffits.

DELETE ARTICLE IF NO SHAFT-WALL REQUIRED FOR PROJECT.

- C. Gypsum Liner Panels: Proprietary liner panels as required for the specific fire-resistant-rated gypsum board shaft-wall assemblies indicated, with moisture-resistant paper facings.

DELETE BELOW IF CEMENTITIOUS BACKER UNITS ARE EXCLUSIVELY SPECIFIED AS BASE FOR TILE.

- D. Glass-Mat, Water-Resistant Gypsum Backing Board: ASTM C 1178, of type and thickness indicated below:
 - 1. Type and Thickness: Regular, 1/2 inch (12.7 mm) thick, unless otherwise indicated.
 - 2. Type and Thickness: Type X, 5/8 inch (15.9 mm) thick, where required for fire-resistance-rated assemblies and where indicated.
 - 3. Products: Subject to compliance with requirements, provide "Dens-Shield Tile Backer" manufactured by Georgia-Pacific Corp.

2.5 CEMENTITIOUS BACKER UNITS

DELETE ARTICLE IF CEMENTITIOUS BACKER UNITS ARE NOT REQUIRED FOR PROJECT OR IF SPECIFIED IN ANOTHER SECTION.

- A. Provide cementitious backer units complying with ANSI A118.9 and in maximum lengths available to minimize end-to-end butt joints.
 - 1. Thickness: Manufacturer's standard thickness, but not less than 7/16 inch, unless otherwise indicated.
 - 2. Width: Manufacturer's standard width, but not less than 32 inches.

2.6 TRIM ACCESSORIES

- A. Accessories: Formed steel sheet zinc coated by hot-dip process, or rolled zinc, complying with the requirements of ASTM C 1047 for cornerbead, L, LC, U shapes.
- B. One-piece control joint formed from rolled zinc with V-shaped slot and removable strip covering slot opening.

ADD ACCESSORIES FOR CURVED EDGES HERE, IF ANY - SEE AIABAS.

2.7 JOINT TREATMENT MATERIALS

- A. General: Provide joint treatment materials complying with ASTM C 475 and the recommendations of both the manufacturers of sheet products and of joint treatment materials.

BELOW IS ONLY DRYING TYPE COMPOUND. SPECIFY SETTING-TYPE JOINT COMPOUNDS WHERE FAST ONE-DAY FINISHING IS REQUIRED, OR WHERE RAPID DRYING CONDITIONS WOULD CAUSE DRYING-TYPE JOINT COMPOUNDS TO SHRINK AND LOSE SURFACE STRENGTH. SEE AIABAS FOR LANGUAGE AND DETAILS.

- B. Joint Treatment for Gypsum Board: Provide paper reinforcing tape; and factory-packaged, vinyl-based, jobsite- or factory-mixed products. At Contractor's option, provide either specifically formulated taping and topping compounds or all-purpose compounds.

RETAIN BELOW IF CEMENTITIOUS BACKER UNITS ARE SPECIFIED IN THIS SECTION.

- C. Joint Treatment Cementitious Backer Units: Tape and compound as recommended by cementitious backer unit manufacturer.

2.8 MISCELLANEOUS MATERIALS

DELETE PRODUCTS NOT NEEDED. EDIT PART 3 FIRST AND RETAIN APPLICABLE PRODUCTS IN THIS ARTICLE.

- A. Acoustical Sealant for Exposed and Concealed Joints: Latex sealant complying with ASTM C 834; and subject to compliance with requirements, one of the following products:
 - 1. PL Acoustical Sealant; ChemRex, Inc.; Contech Brands.
 - 2. AC-20 FTR Acoust. and Insul. Sealant; Pecora Corp.
 - 3. SHEETROCK Acoustical Sealant; USG Co.
- B. Laminating Adhesive: Special adhesive or joint compound recommended for laminating gypsum panels.
- C. Spot Grout: ASTM C 475, setting-type joint compound recommended for spot-grouting hollow metal door frames.
- D. Foam Gaskets: Closed-cell vinyl foam adhesive-backed strips, 1/8 inch thick, in width to suit metal stud size.
- E. Sound-Attenuation Blankets: Unfaced mineral-fiber blanket insulation produced by combining glass fibers with thermosetting resins to comply with ASTM C 665 for Type I (blankets without membrane facing).

CHANGE BELOW TO ASTM C 954 IF GYPSUM WILL BE ATTACHED TO COLD-FORMED STEEL FRAMING SPECIFIED IN DIVISION 5.

- F. Fasteners: Provide size and type of screws recommended by manufacturer for application indicated, and as follows:
 - 1. Metal and Gypsum Board: Steel drill screws complying with ASTM C 1002 and of size, corrosion resistance and holding power required to fasten steel framing and furring members securely to substrates involved.

RETAIN BELOW IF CEMENTITIOUS BACKER UNITS ARE SPECIFIED IN THIS SECTION.

- 2. Cementitious Backer Units: Corrosion-resistant screws recommended by panel manufacturer.

BELOW IS FOR ATTACHING STEEL FRAMING INTO CONCRETE.

- 3. Powder-Actuated Fasteners in Concrete: Corrosion-resistant materials suitable for application and capable of sustaining, without failure, a load equal to 5 times that imposed by ceiling construction, as determined by testing according to ASTM E 1190.

DELETE ARTICLE BELOW IF NO SHAFT-WALL.

2.9 SHAFT-WALL BASIC ASSEMBLY DESCRIPTION

- A. Cavity Shaft-Wall Assemblies: Provide assemblies constructed of proprietary gypsum liner panels inserted between steel tracks at each end of studs; with specially shaped steel studs engaged in tracks and fitted between gypsum liner panels; and with gypsum board on finished side or sides applied to studs in the number of layers, thicknesses and arrangement indicated.
 - 1. Gypsum Liner Panel Thickness: As standard with manufacturer for gypsum board shaft-wall assemblies indicated.
 - 2. Stud Shape and Depth and Thickness: As standard with manufacturer for gypsum board shaft-wall assemblies indicated; but not less than 0.0284-inch minimum base metal thickness.
 - 3. Room-Side Finish: As indicated.

PART 3 - EXECUTION

3.1 INSTALLING STEEL FRAMING, GENERAL

- A. Steel Framing Installation Standard: Comply with ASTM C 754 and with ASTM C 840 requirements that apply to framing installation.

DELETE BELOW IF NONE. WHERE ITEMS TO BE SUPPORTED ARE NOT SHOWN ON DRAWINGS (SUCH AS OWNER'S LAB EQUIPMENT AND BINDER BINS FOR MOVABLE FURNITURE), CONSIDER SCHEDULING LOCATIONS AND SIZES OF SUPPORT PANELS IN "SCHEDULING" ARTICLE AT END OF SECTION, OR ON DRAWINGS.

- B. Install supplementary framing, blocking, and bracing at terminations to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction. Comply with details shown or, if not shown, with USG Co.'s "Gypsum Construction Handbook."
- C. Isolate steel framing from building structure at the following locations:

BELOW ARE EXAMPLES ONLY. RETAIN OR REVISE TO SUIT PROJECT.

- 1. In ceilings where building structure abuts ceiling perimeter or penetrates ceiling.
- 2. Where partition framing and wall furring abut structure, except at floor.

INCLUDE DETAILS ON DRAWINGS SHOWING CONTROL- AND EXPANSION-JOINT CONSTRUCTION AND LOCATIONS FOR BOTH FIRE-RESISTANCE-RATED AND NONRATED ASSEMBLIES.

- D. Independently frame both sides of joints at building control and expansion joints.

3.2 INSTALLING STEEL FRAMING FOR SUSPENDED CEILINGS

DELETE THIS ARTICLE IF NO SUSPENDED CEILINGS/SOFFITS.

A. Install suspended steel framing components in sizes and at spacings indicated, but not less than that required by the referenced steel framing installation standard.

1. Do not connect or suspend steel framing from ducts, pipes, or conduit, or attach to steel roof deck.
2. Framing Channel Spacing: 16 inches o.c.

USUALLY DELETE BELOW AND RETAIN ABOVE.

3. Framing Channel Spacing: 24 inches o.c.

B. Installation Tolerances: Install with cross-furring members level to within 1/8 inch in 12 feet as measured both lengthwise on each member and transversely between parallel members.

3.3 INSTALLING STEEL FRAMING FOR WALLS AND PARTITIONS

A. Install runners (tracks) at floors and ceilings, and structural walls and columns where gypsum board stud assemblies abut other construction.

RETAIN BELOW IF STUDS WILL ABUT MASONRY OR DISSIMILAR METALS AT EXTERIOR WALLS.

1. Where studs are installed directly against exterior walls, install foam gaskets between studs and wall.

B. Installation Tolerances: Install each steel framing and furring member so that fastening surfaces do not vary more than 1/8 inch from the plane formed by the faces of adjacent framing.

C. Extend partition framing to height indicated. Continue framing over frames for doors and openings and frame around ducts penetrating partitions above ceiling to provide support for gypsum board.

EDIT PARA BELOW TO SUIT PROJECT CONDITIONS. BE SURE TO SHOW PERIMETER RELIEF DETAIL ON DRAWINGS - ONE CAN BE FOUND IN THE "USE OF MANUAL" CHAPTER OF THE GYPSUM ASSOCIATION "FIRE RESISTANCE AND SOUND CONTROL MANUAL."

1. Terminate partition framing as shown on Drawings; or if not shown, as follows:

SELECT ONE BELOW.

- a. At suspended ceilings.

DELETE IF NOT REQUIRED. SEE DISCUSSION UNDER "PRODUCTS" PART IN THIS SECTION.

- 1) Install proprietary prefinished top track.
- b. 6-inches above exposed face of suspended acoustic ceiling panels.
- c. Full height to structural supports or substrates above suspended ceilings, if any. Cut studs 1/2 inch short of full height to provide perimeter relief.

EDIT BELOW TO SUIT PROJECT, OR DELETE IF NOT REQUIRED. SEE DISCUSSION UNDER "PRODUCTS" PART IN THIS SECTION.

- 1) Install proprietary deflection and firestop track at fire-rated partitions, and as otherwise indicated.

RETAIN, REVISE OR DELETE BELOW TO SUIT PROJECT.

2. For STC-rated and fire-resistance-rated partitions that extend to the underside of floor/roof slabs and decks or other continuous solid structural surfaces to obtain ratings, install framing around structural and other members extending below floor/roof slabs and decks, as needed, to support gypsum board closures needed to make partitions continuous from floor to underside of solid structure.

D. Install steel studs and furring in sizes and at spacings as follows:

1. Maximum spacing between studs: 16-inches o.c., unless otherwise indicated.

SELECT EITHER ABOVE OR BELOW. USE 16-INCH MINIMUM SPACING FOR CEMENTITIOUS BACKER UNITS.

2. Maximum spacing between studs: 24-inches o.c., unless otherwise indicated.

E. Frame openings to comply with GA-219, and with applicable published recommendations of gypsum board manufacturer, unless otherwise indicated. Attach vertical studs at jambs with screws either directly to frames or to jamb anchor clips on door frames; install runner track section (for cripple studs) at head and secure to jamb studs.

1. Install 2 studs at each jamb, unless otherwise indicated.

ADD REQUIREMENTS FOR INSTALLATION OF THERMAL INSULATION AND VAPOR BARRIERS HERE. SEE AIABAS FOR DETAILS.

3.4 APPLYING AND FINISHING GYPSUM BOARD, GENERAL

- A. Gypsum Board Application and Finishing Standards: Install and finish gypsum panels to comply with ASTM C 840 and GA-216.
- B. Install gypsum panels with face side out.
- C. Locate both edge or end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Avoid joints other than control joints at corners of framed openings where possible.

DELETE BELOW IF HOLLOW METAL DOOR FRAMES ARE NOT USED IN STEEL-FRAMED PARTITIONS.

- D. Spot grout hollow metal door frames for solid-core wood doors, hollow metal doors, and doors over 32 inches wide. Apply spot grout at each jamb anchor clip and immediately insert gypsum panels into frames.
- E. Form control and expansion joints at locations indicated and as detailed, with space between edges of adjoining gypsum panels, as well as supporting framing behind gypsum panels.

- F. Isolate perimeter of gypsum board partitions at structural abutments, except floors, with 1/4- to 1/2-inch-wide spaces and trim edges with LC-bead edge trim where edges of gypsum panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.

DELETE BELOW IF NO SOUND-RATED PARTITIONS.

- G. Where STC-rated gypsum board assemblies are indicated, seal construction at perimeters, behind control and expansion joints, openings, and penetrations with a continuous bead of acoustical sealant including a bead at both faces of the partitions. Comply with ASTM C 919 and manufacturer's recommendations for location of edge trim and closing off sound-flanking paths around or through gypsum board assemblies, including sealing partitions above acoustical ceilings.
- H. Space fasteners in gypsum panels according to referenced gypsum board application and finishing standard and manufacturer's recommendations.
 - 1. Space screws a maximum of 12 inches o.c. for vertical applications.

DELETE BELOW IF NO TILE BACKER BOARD.

- I. Space fasteners in tile substrate panels a maximum of 8 inches o.c.

3.5 GYPSUM BOARD APPLICATION METHODS

- A. Install gypsum wallboard panels on ceilings prior to wall/partition board application and at right angles to framing.
- B. On partitions/walls, apply gypsum panels horizontally (perpendicular to framing), unless parallel application is required for fire-resistance-rated assemblies. Use maximum-length panels to minimize end joints. Stagger abutting end joints not less than one framing member in alternate courses of board.
 - 1. On Z-furring members, apply gypsum panels vertically (parallel to framing) with no end joints. Locate edge joints over furring members.

DELETE PARA AND SUBPARAS BELOW IF NONE.

- C. Wall Tile Substrates: For substrates indicated to receive thin-set ceramic tile and similar rigid applied wall finishes, comply with the following:

DELETE BELOW IF WATER-RESISTANT GYPSUM BOARD IS RETAINED BELOW.

- 1. Install cementitious backer units to comply with ANSI A108.11 at showers, and where indicated.

DELETE BELOW IF CEMENTITIOUS BACKER UNITS ARE RETAINED ABOVE. DRAWINGS SHOULD SHOW SEALANT INSTALLED IN 1/4-INCH GAP.

- 2. Install water-resistant gypsum backing board panels at showers, tubs, and where indicated. Install with 1/4-inch open space where panels abut other construction or penetrations.

RETAIN BELOW IF REGULAR GYPSUM BOARD IS ACCEPTABLE AS WALL-TILE SUBSTRATE FOR DRY LOCATIONS.

3. Install gypsum wallboard panels with tapered edges taped and finished to produce a flat surface except at showers, tubs, and other locations indicated to receive water-resistant panels.

D. Apply gypsum panels to supports with screws.

E. Direct-Bonding to Substrate: Where gypsum panels are indicated as directly adhered to a substrate (other than studs, joists, furring members, or base layer of gypsum board), comply with gypsum board manufacturer's recommendations, and temporarily brace or fasten gypsum panels until fastening adhesive has set.

3.6 INSTALLING TRIM ACCESSORIES

A. General: Fasten trim accessories according to accessory manufacturer's directions for type, length, and spacing of fasteners.

BELOW ARE EXAMPLES OF UNIVERSAL SCOPE DEFINITIONS FOR USING TRIM. REVISE AS DESIRED OR SHOW ON DRAWINGS.

B. Install cornerbead at external corners.

C. Install edge trim where edge of gypsum panels would otherwise be exposed. Provide edge trim type with face flange formed to receive joint compound, except where other types are indicated.

D. Install control joints according to ASTM C 840 and manufacturer's recommendations and in specific locations approved by Architect for visual effect.

DELETE BELOW IF NO SHAFT-WALL INCLUDED IN PROJECT.

3.7 INSTALLATION OF GYPSUM BOARD SHAFT-WALL ASSEMBLIES

A. General: Install gypsum board shaft-wall assemblies to comply with performance and other requirements indicated as well as with manufacturer's installation instructions and ASTM C 754 for installing steel framing.

B. Do not bridge building expansion joints with shaft-wall assemblies; frame both sides of joints with furring and other support as indicated.

C. At penetrations in shaft wall, maintain fire-resistance rating of entire shaft-wall assembly by installing supplementary steel framing around perimeter of penetration and fire protection behind boxes containing wiring devices similar items.

3.8 FINISHING GYPSUM BOARD ASSEMBLIES

A. Levels of Gypsum Board Finish: Provide the following levels of gypsum board finish per GA-214.

DELETE LEVELS BELOW THAT DO NOT APPLY TO PROJECT.

1. Level 1 for ceiling plenum areas, concealed areas, and where indicated, unless a higher level of finish is required for fire-resistance-rated assemblies and sound-rated assemblies.
2. Level 4 for gypsum board surfaces, unless otherwise indicated.

BELOW REQUIRES SKIM COAT OVER ENTIRE SURFACE. RETAIN IF RIGID TRIM IS INSTALLED ON SHORT WALL SEGMENTS TO AVOID GAPS BEHIND TRIM THAT OCCUR BETWEEN TWO CLOSELY SPACED, BUILT UP EDGES.

3. Level 5 for gypsum board the following surfaces where wood, stone, or cast plastic trim or base are indicated:
 - a. At gypsum column enclosures.
 - b. Where wall segments are less than 48-inches wide.
 - c. Where indicated.

- B. Where Level 1 gypsum board finish is indicated, embed tape in joint compound.

PARA BELOW ASSUMES LEVEL 4 FINISH IS DEFAULT REQUIREMENT. IF NOT, REVISE OR DELETE PARA TO SUIT PROJECT.

- C. For Level 4 gypsum board finish, embed tape in joint compound and apply first, fill (second), and finish (third) coats of joint compound over joints, angles, fastener heads, and accessories. Touch up and sand between coats and after last coat as needed to produce a surface free of visual defects and ready for decoration.

DELETE BELOW IF LEVEL 5 IS NOT REQUIRED FOR PROJECT.

- D. Where Level 5 gypsum board finish is indicated, after application of embedding, fill and finish coats, apply a thin, uniform skim coat of joint compound over entire surface. Touch up and sand between coats and after last coat as needed to produce a surface free of visual defects, tool marks, and ridges and ready for decoration.

DELETE BELOW IF NO CEMENTITIOUS BACKER UNITS OR IF SPECIFIED IN DIVISION 9 SECTION "TILE."

- E. Finish cementitious backer units to comply with unit manufacturer's directions.

3.9 IDENTIFICATION

- A. Provide permanent identification of all assemblies requiring opening protectives including fire walls, fire barriers, fire partitions, and smoke barriers.
- B. Install in accordance with the requirements of Michigan Building Code chapter 7.
- C. Location:
 1. Locate in accessible concealed spaces above finished ceiling. In locations without accessible concealed location, coordinate location with architect.
 2. Locate within 15 feet of the end of each wall and at intervals not exceeding 30 feet measured horizontally along the assembly.
- D. Signage requirements:
 1. Lettering:
 - a. 3-inch minimum; 3/8-inch stroke width.

- b. Color: Red on white background
- 2. Verbiage incorporating project specific hourly rating. Refer to life safety plan for rating requirements:
 - a. FIRE RATED ASSEMBLY (__HR) - PROTECT ALL OPENING
 - b. SMOKE BARRIER - PROTECT ALL OPENINGS

3.10 CLEANING AND PROTECTION

- A. Promptly remove any residual joint compound from adjacent surfaces.

END OF SECTION 092116